

REMARKS

Claim Objections

In response to claim objections set forth in this Office Action, applicant has amended claims 6, 7, 16, and 17 to overcome the informality problems.

Claim Rejections under 35 USC § 102

The Examiner has rejected claims 1,2,4,6,8,12,14,18, and 20 as being anticipated by US 4,979,793 (Bowen et al), claims 1,5,7,10 and 11 anticipated by Caron et al. However, the Examiner is requested to note that Applicant has amended claims 1,2,4,6, 12,14 and 20 to incorporate novel limitations thereto and has cancelled claims 5,8,10,11,15, and 18 without prejudice. By such amendments, applicant believes that amended claims 1,2,4,6, 12,14 and 20 are now novel and different from the cited prior art. Detailed explanations are given below.

Regarding amended claim 1, an optical attenuator comprises an optical fiber comprising an attenuating part which is bent to obtain a desired attenuation, a fixture fixing the optical fiber thereto, and a housing having a cover and a frame to receive the fixture therein; wherein the fixture comprises a rear supporting portion, a central retaining portion, and two holders for engaging with two corresponding optical connectors, respectively. Neither Bowen nor Caron et al did disclose a fixture comprising a rear supporting portion, a central retaining portion, and two holders for engaging with two corresponding optical connectors, respectively. Such fixture is novel and different from the cited art.

Claims 2-4, 6,7, and 9 depend directly or indirectly, from claim 1, so should also novel and different from the cited art.

Regarding amended claim 12, an optical attenuator comprises an optical fiber comprising an attenuating part bent to obtain a desired attenuation, a fixture fixing the optical fiber thereto and comprising two front holders, two optical connectors respectively align with opposite ends of the optical fiber and engage with the holders of the fixture respectively, and a housing including a cover and a frame, wherein the fixture is received in the housing. Neither Bowen nor Caron disclose such fixture comprising two front holders, therefore, claim 12 is significantly different from the cited art.

Claims 13,14,16,17,19 are also novel, since they all depend directly or indirectly, from amended claim 12 and incorporate more limitations thereinto.

Claim Rejections under 35 USC § 103

The examiner has rejected claims 1-4,8,9,12-14 and 18-20 as being unpatentable over US 5,475,781 (Chang et al) in view of US 5,259,045 (Azuma et al), and claims 12, 15, and 17 as being unpatentable over Caron in view of Chang.

In response to this rejection, applicant has amended independent Claim 1, and 12 thereby containing subject matter which defines over prior art as Examiner stated in this Office Action.

Regarding claim 1, Applicant disagrees with the Examiner that Bowen discloses a fixture (covers # 13, # 14). In Applicant's opinion, covers 13 and 14

are more likely to be equivalent to the housing comprising a cover 21 and a frame 22 disclosed in the instant invention. Therefore, Bowen does not disclose a fixture which is used only to fix an optical fiber. Even if covers 13 and 14 can be regarded as a fixture, the structure of such fixture is significantly different from the structure of the fixture in the instant invention. At the least, the fixture in the instant invention is *a single item*.

The Examiner further contends that Chang discloses a loop-back connector assembly # 70 comprising a bent optical fiber 20, a fixture (assembly # 70) fixing the optical fiber thereto, and two SC optical fiber connectors (# 10) engaged in the fixture, aligned with opposite ends of the fiber. However, it is not understood how the loop-back connector assembly # 70 can comprise a fixture which is referred to assembly # 70 by the Examiner. Even if the connector assembly # 70 can be regarded as a fixture, however, this fixture has a structure significantly different from the structure of the fixture in the instant invention. The fixture in the instant invention is a *single article* and is only for the purpose of fixing the optical fiber in position, rather than accommodating or packaging all the other elements. The **adjusted optical attenuation** of the optical fiber can be maintained and *will not be easily changeable due to unexpected impact or other factors*, since the optical fiber is fixed to a specific fixture *securingly after* obtaining an appropriate attenuation. A combination of Chang et al. and Azuma et al. cannot render obvious the invention as defined in the amended Claim 1. The instant invention has *novel features which produce new and unexpected* advantages over the combination of Chang and Caron. Therefore, the Applicant believes that the amended claim 1 is in condition for allowance.

Claims 2-4, 6,7, and 9 depend directly or indirectly, from claim 1, so should also be in condition for allowance.

The applicant has amended claim 12 by incorporating more limitations and novel features thereinto claim 12, therefore, now defines an the optical loop-back attenuator having novel features of the instant invention which produce new and unexpected advantages, as hereinbefore mentioned. To emphasize, the fixture is only for the purpose of fixing the optical fiber to *maintain* a more stable attenuation and assure the *optical attenuation will not easily be changeable after obtaining a desired attenuation, due to unexpected impact.* In other words, the optical fiber is bent to obtain a desired attenuation, however, the optical attenuation will probably be changed **without** the fixture of the instant invention, because unexpected impact will probably change the curvature of the optical fiber. In addition, the fixture of the instant invention has two holders for engaging with two corresponding optical connectors, which also assures the optical alignment between the optical fiber and the optical connectors. Undoubtedly, such fixture ensures both optical characteristics and the optical attenuation after obtaining the desired attenuation. Therefore, amended claim 12 is now believed to be in condition for allowance.

Claims 13,14,16,17,19 are also believed to be in condition for allowance, since they all depend directly or indirectly, from amended claim 12 and incorporate more limitations thereinto.

Regarding amended claim 20, the Examiner argues that Bowen disclosed a method of making an attenuator in fig. 2. However, it is disputable that how fig. 2 provides a method of making an attenuator since fig. 2 only shows an apparatus.

Furthermore, as stated, the structure of the optical loop-back attenuator of the instant invention is significantly differently from that of the Bowen reference. Therefore, the method of making or assembling the optical loop-back attenuator should be different. Understandably, Bowen does NOT clearly mention how they adjust the radii or turns of the curved portion of the bare fiber for obtaining the desired attenuation and how they permanently keep the such desired radii or turns of the curved portion of the bare fiber. For the aforementioned reasons, the described method of making the product in claim 20 should be allowable since the product is novel and nonobvious.

In view of the above claim amendments and remarks, the subject application is believed to be in a condition for allowance and an action to such effect is earnestly solicited.

Respectfully submitted,
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